

polarization controller;

a delay plate to change the polarization of light incident thereon;

and

a second element to change the optical path of light from said

delay plate; and

a final polarization control optical switch including:

a polarization controller that is capable of changing the polarization of light incident thereon by one of applying voltage thereto and not applying voltage thereto; and

an element to change the optical path of light from said polarization controller,

wherein said polarization control optical space switch has a plurality of inputs and the same number of outputs, and

wherein to switch light from one input to one output requires controlling only a single element making up said polarization controllers.

<sup>24</sup>  
35. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34,

wherein said delay plate includes segments that do not delay light incident thereon.

<sup>25</sup>  
36. (NEW) A polarization control optical space switch  
according to claim <sup>23</sup>34, wherein said element to change the optical path of light from said

polarization controller and the second element to change the optical path of light from said delay plate only change the optical path of p-polarized light.

37. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34, wherein said element to change the optical path of light from said polarization controller and the second element to change the optical path of light from said delay plate only change the optical path of s-polarized light.

38. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34, wherein said element to change the optical path of light from said polarization controller changes the optical path by moving light incident at the i-th input thereto to one of the (i-1)th and (i+1)th output.

39. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34, wherein said second element to change the optical path of light from said delay plate changes the optical path by moving light incident at the i-th input thereto to one of the (i-1)th and (i+1)th output.

40. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34, wherein said element to change the optical path of light from said polarization controller is a downward polarizing beam splitter, which reflects incident light

with a predetermined polarization input on the  $i$ -th input to the  $(i+1)$ th output.

<sup>30</sup>  
41. (NEW) A polarization control optical space switch

according to claim <sup>23</sup>34, wherein said second element to change the optical path of light from said delay plate is an upward polarizing beam splitter, which reflects incident light with a predetermined polarization input on the  $i$ -th input to the  $(i-1)$ th output.

<sup>31</sup>  
42. (NEW) A polarization control optical space switch according to claim <sup>23</sup>34,

wherein the element to change the optical path of light from said polarization controller is constructed from a polarizing beam splitter array consisting of a combination of polarizing beam splitters.--

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